Appendix E – LTBMU Species Diversity

E.1. Forest-wide Biological Concepts

E.1.1 Biological Integrity

The biological integrity of aquatic or terrestrial ecosystems is defined as "the ability to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of the natural habitat of the region" (SNEP 1996). Further discussions of biological integrity are presented for the Lake Tahoe basin in the LTWA (2000) and for the Sierra Nevada Mountains in the SNEP (1996). Individual species are adapted to conditions within the natural range of variability and are presumed to derive the greatest benefits (e.g., increased fitness and reproductive success) from environmental conditions within this range.

E.1.2 Biological Diversity

The law (The Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA) (88 Stat. 476, et seq.), as amended by the National Forest Management Act of 1976 (NFMA) (90 Stat. 2949, et seq.; 16 U.S.C. 1601-1614)), set standards for land and resource management planning across the National Forest System, including a requirement related to diversity of plant and animal communities. Specifically, NFMA states that plans must:

> "(B) Provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives…"

The 1982 planning rule that implements this law requires the following be in forest plans:

- Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native species in the planning area (219.19)
- Each alternative shall establish objectives for the maintenance & improvement of habitat for MIS (219.19(a))
- Habitat determined to be critical for threatened and endangered species shall be identified, and measures shall be prescribed to prevent the destruction or adverse modification of such habitat. Objectives shall be determined for threatened and endangered species that shall provide for, where possible, their removal from listing as threatened and endangered species through appropriate conservation measures, including the designation of special areas to meet the protection and management needs of such species. (219.19(a) (7)).

E.1.3 Connectivity and Insularity

The connectivity of suitable habitats is a bio geographical concept often used to describe the probability that a suitable habitat may be utilized based on its spatial relationship to other suitable habitats. The basic concept is founded on the idea that the probability of either of two suitable habitats having been, currently, or becoming occupied by a species increases with increases in the

degree of connectivity between the suitable habitats. The mechanism of connectivity depends upon the species in question. Birds and fish obviously require different forms of habitat connectivity.

Insularity is a bio geographical concept that describes the inter-relationships of the conditions and processes between two or more habitats. For example, if a predator is known to forage along the boundary of two habitats (e.g., the edge of a meadow and a forest stand) then its prey species may require habitats located away from the habitat boundary (e.g., toward the interior of the forested stand) to survive and reproduce. The apparent suitability of habitats is, in this case, affected by the predator-prey relationship. Insularity may be described in relative degrees and may be either beneficial or detrimental depending on the ecological application (i.e., whether a given species is adapted to a high degree of insularity, as is often the case in island endemic species, or to a low degree of insularity, as is often the case in edge-adapted species).

Habitat fragmentation is a concept often used to describe how connectivity and insularity have changed over time at varying spatial scales (e.g., fragmentation at the stand versus landscape scale). Fragmentation can be defined as "loss of stand area, loss of stand interior area, changes in relative or absolute amounts of stand edge, and changes in insularity" (Turner 1989 in Buskirk and Ruggiero 1994).

E.1.4 Role of Fire

Fire plays a significant ecological role in Lake Tahoe Basin ecosystems. In many of the basin's vegetation types, fire is the primary disturbance agent setting the compositional and structural characteristics of the stand. The role that fire plays in a system is described by the system's fire regime, which is characterized by a number of attributes including fire return interval, fire intensity and severity, fuel consumption and spread patterns, seasonality etc. Different ecosystems and vegetation types have differing fire regimes inherent with the fuels, topography and climatic conditions associated with the system.

E.2. Species Viability and Species Lists

Species viability is depicted in the 1982 NFMA regulations in several locations (219.19 (a), 219.26, 219.27(a)(5-6), and 219.27(g) and all have been addressed and detailed in various sections of the Revised Forest Plan and incorporated into the alternative design in the Final EIS, as well as in associated Appendices and the biological assessment (BA) and biological evaluations (BE) as part of the overall Forest Planning process as required by the regulations. The regulations specific to species viability state:

Sec. 219.19 Fish and wildlife resource. Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area. For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area. In order to insure that viable populations will be maintained, habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area.

(a) Each alternative shall establish objectives for the maintenance and improvement of habitat for management indicator species selected under paragraph (g)(1) of this section, to the degree consistent with overall multiple use objectives of the alternative. To meet this goal, management planning for the fish and wildlife resource shall meet the requirements set forth in paragraphs (a)(1) through (a)(7) of this section.

(1) In order to estimate the effects of each alternative on fish and wildlife populations, certain vertebrate and/or invertebrate species present in the area shall be identified and selected as management indicator species and the reasons for their selection will be stated. These species shall be selected because their population changes are believed to indicate the effects of management activities. In the selection of management indicator species, the following categories shall be represented where appropriate: Endangered and threatened plant and animal species identified on State and Federal lists for the planning area; species with special habitat needs that may be influenced significantly by planned management programs; species commonly hunted, fished, or trapped; non-game species of special interest; and additional plant or animal species selected because their population changes are believed to indicate the effects of management activities on other species of selected major biological communities or on water quality. On the basis of available scientific information, the interdisciplinary team shall estimate the effects of changes in vegetation type, timber age classes, community composition, rotation age, and year-long suitability of habitat related to mobility of management indicator species. Where appropriate, measures to mitigate adverse effects shall be prescribed.

(2) Planning alternatives shall be stated and evaluated in terms of both amount and quality of habitat and of animal population trends of the anagement indicator species.

(3) Biologists from State fish and wildlife agencies and other Federal agencies shall be consulted in order to coordinate planning for fish and wildlife, including opportunities for the reintroduction of extirpated species.

(4) Access and dispersal problems of hunting, fishing, and other visitor uses shall be considered.

(5) The effects of pest and fire management on fish and wildlife populations shall be considered.

(6) Population trends of the management indicator species will be monitored and relationships to habitat changes determined. This monitoring will be done in cooperation with State fish and wildlife agencies, to the extent practicable.

(7) Habitat determined to be critical for threatened and endangered species shall be identified, and measures shall be prescribed to prevent the destruction or adverse modification of such habitat. Objectives shall be determined for threatened and endangered species that shall provide for, where possible, their removal from listing as threatened and endangered species through appropriate conservation measures, including the designation of special areas to meet the protection and management needs of such species.

Sec. 219.26 Diversity. Forest planning shall provide for diversity of plant and animal communities and tree species consistent with the overall multiple-use objectives of the planning area. Such diversity shall be considered throughout the planning process. Inventories shall include quantitative data making possible the evaluation of diversity in terms of its prior and present condition. For each planning alternative, the interdisciplinary team shall consider how diversity will be affected by various mixes of resource outputs and uses, including proposed management practices.

Sec 219.27 Management Requirements. (a 5-6) and (g):

(a) Resource protection. All management prescriptions shall:

(5) Provide for and maintain diversity of plant and animal communities to meet overall multiple-use objectives, as provided in paragraph (g) of this section;

(6) Provide for adequate fish and wildlife habitat to maintain viable populations of existing native vertebrate species and provide that habitat for species chosen under Sec. 219.19 is maintained and improved to the degree consistent with multiple-use objectives established in the plan;

(g) Diversity. Management prescriptions, where appropriate and to the extent practicable, shall preserve and enhance the diversity of plant and animal communities, including endemic and desirable naturalized plant and animal species, so that it is at least as great as that which would be expected in a natural forest and the diversity of tree species similar to that existing in the planning area. Reductions in diversity of plant and animal communities and tree species from that which would be expected in a natural forest, or from that similar to the existing diversity in the planning area, may be prescribed only where needed to meet overall multiple-use objectives. Planned type conversion shall be justified by an analysis showing biological, economic, social, and environmental design consequences, and the relation of such conversions to the process of natural change.

The implemention of the species viability provision of the 1982 NFMA regulations as stated above for the revised Forest Plan were accomplished by:

- Describing the ecological context of the planning area (refer to EIS)
- Identifing species for which there may be a viability concern (refer to Table E5 in Appendix E)
- Information presented on the species for which there may be a viability concern (refer to Section E.2. of Appendix E, Table E5 in Appendix E, the Chapter 3 analysis for species in the EIS, including Management Indicator Species, the Biological Assessment, and the Biological Evaluation reports).
- Species groups were formed where needed for habitat associations (refer to Forest Plan (e.g. cliff nesting raptors)
- Conservation for species were addressed throughout the Forest Plan in the creation of species refuge area (SRA), in the deleveopment of desired conditions, strategies, objectives, and standard & guidelines, all in order to obtain approaches for managing for diversity of habitat and species
- Multiple LRMP alternatives were delelvoped, all of which consider the needs for habitat to meet species diversity needs.
- The effects on viability for species have been addressed in all of the LRMP alternatives described in Chapter 3 and the biological evaluations,
- Monitoring for selected species is described in detail in Appendix A.

The steps shown above are associated with the specific NFMA regulations related to species viability and have been integrated into the Revised Forest Plan, Final EIS, associated Appendices and biological assessment (BA) and biological evaluations (BE) where appropriate as part of the overall Forest Planning process as required by the regulations.

The design of the Revised Forest Plan (LRMP) was created to maintain species viability where that is possible and it is based on the best available science at the time of writing. The LRMP's standard and guidelines (S&G) with associated desired condition, strategies, objectives, and limited operating periods (Appendix E – E.2.5) have been developed for maintaining viability but effects on viability cannot be determined at this programmatic scale since the plan does not authorize any activities that might actually cause adverse impacts to species or habitats (refer to Appendix O). Rather, any impacts to species (beneficial or otherwise) only come from site-specific activities and project-level decisions, of which the scope, location, and design are unclear at the time of the LRMP approval.

The specifications (i.e. desired conditions; S&Gs) in the LRMP have set the parameters on the scope of future project activities, and in no way require (or even encourage) projects to be designed to maximize outputs. The LRMP is not the sole constraint on project-level activities and project-level decisions can (and usually do) include additional design features to minimize adverse impacts to species.

It is understood that new science is likely to be developed between the time of writing the LRMP and the time when projects are implemented, which can lead not only to different project design features but also to LRMP amendments as necessary to maintain viability of the selected species. It is also understood that the LTBMU is much smaller in size than most Forest Service units and it does not (cannot) provide for viability within the planning unit area for many of the wide ranging native vertebrate species based on its small size and geographic location between the Great Basin of Nevada and the Sierra Nevada mountain range. However, the LTBMU does function and provide for conservation of species over time by providing for habitat to support species reproductive individuals and provide for connectivity to surrounding habitat that allows for greater interaction and reproductive function for wide ranging species.

The identification of selected species to be brought forward in species specific discussions in the LRMP (Figure E1), and those that relate to viability consideration in the LRMP, are described in detail in the following sections of this Appendix (E). Refer to Table E5 for the full list of species considered for the LRMP and where selected species are addressed in the Final LRMP.

For species selected as "secure" those are noted as having "general species and habitat management guidance" and those species considered as "not secure" are those noted as having "species specific management direction guidance". For species that are "not secure" - they are also on species lists (threatened, endangered, proposed, and or candidate species)maintained by the United States Department of Interior Fish & Wildlife Service (FWS), considered as a management indicator species identified by the Pacific Southwest Region of the Forest Service, and/or the Regional Forester Sensitive Species list.

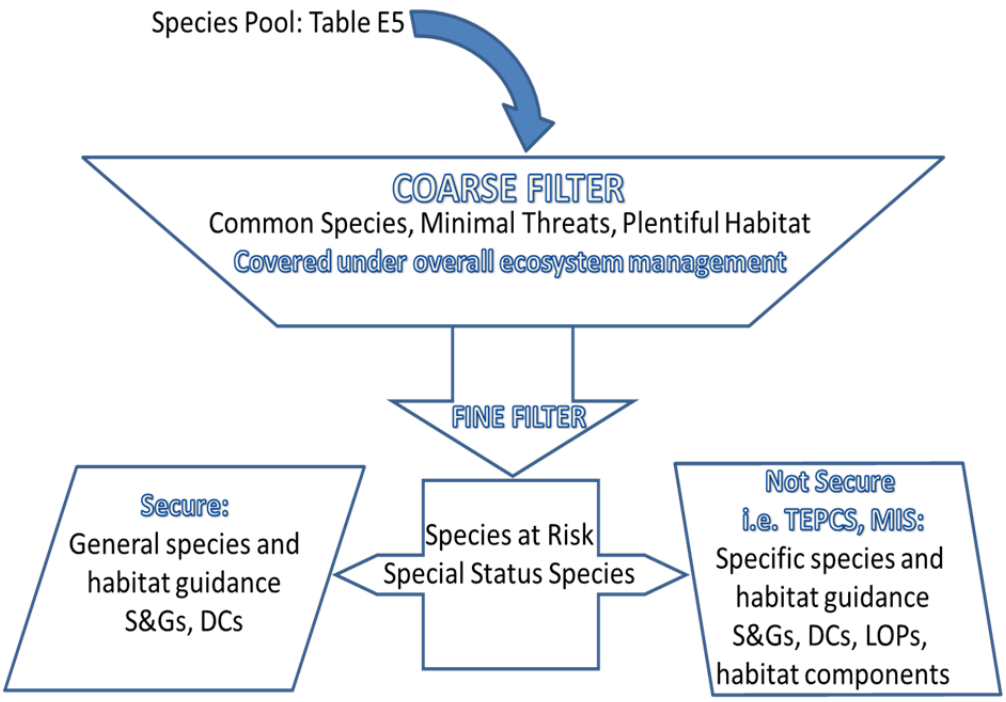

Figure E1 Species-at-risk viability evaluation process diagram.

For species considered as not secure and which fall under various species lists, biological documents (i.e. BE and BA) have been prepared for the FEIS and Forest Plan and are available upon request. This section briefly highlights the purpose of those documents and the species considered for the FEIS and the E and BA.

The purpose of a **BA** is to present an analysis of effects for the proposed project on federally listed endangered, threatened, candidate, and proposed species and their habitats. These federally listed species are managed under the authority of the Endangered Species Act (ESA) and the NFMA. The ESA requires federal agencies to ensure that all actions are not likely to jeopardize the continued existence of any federally listed species. The ESA requires that a BA be written and that the analysis conducted determine whether formal consultation or conference is required on the preferred alternative with the USDI Fish and Wildlife Service. For the LTBMU, consultation has been agreed to occur with both the Sacramento and Reno field offices (per the USDI 2004 coordination agreement). The BA is also prepared in compliance with the requirements of the ESA, Forest Service Manual 2670, and provides for compliance with Code of Federal Regulations (CFR) 50-402.12.

The purpose of a **BE** is to document Forest Service programs or activities in sufficient detail to determine how an action or proposed action may affect any threatened, endangered, proposed, candidate, or sensitive species and their habitats (FSM 2670.5). FSM 2672.4 directs us to complete the biological evaluation for all Forest Service planned, funded, executed, or permitted programs and activities for possible effects on Federally listed threatened, endangered, proposed, candidate, or species listed as sensitive by the Pacific Southwest Regional Forester (i.e. sensitive species). The BE, therefore, provides a process through which potential effects of the proposed action on sensitive species are evaluated and considered during the planning and review process.

Part of the BE is completed to determine whether a proposed action or any of the alternatives will result in a trend toward the sensitive species becoming federally listed.

E.2.1. FWS List of Critical Habitat and Endangered, Threatened, Proposed, and Candidate Species for the LTBMU

The FWS species list is based on the most recent list of critical habitat designations, federally threatened, endangered, proposed, and candidate species for the LTBMU. This list is periodically updated by the FWS as species become listed or delisted for the LTBMU. The most recent list for the LTBMU can be found on the FWS website at: http://www.fws.gov/sacramento/ES_Species/Lists/es_species_lists_NF-form-page.htm .

Currently there is one proposed endangered species and it's associated critical habitat listed for the LTBMU:

- **Sierra Nevada (mountain) yellow-legged frog** (*Rana muscosa*)

Currently there are three threatened species for the LTBMU:

- **Lahontan cutthroat trout** (*Oncorhuynchus clarki henshawi*)
- **Delta smelt** (*Hypomesus transpacificus*)
- **Central Valley steelhead** (*Oncorhynchus mykiss*)

Currently there are four candidate species for the LTBMU:

- **Yosemite toad** (*Bufo canorus*)
- **Fisher** (*Martes pennanti*)
- **Tahoe yellow-cress** (*Rorippa subumbellata*)
- **White bark Pine** (*Pinus albicaulis)*

E.2.2. USFS List of Sensitive Species for the LTBMU

The list of Region 5 sensitive species is maintained by the Pacific Southwest Region - Regional Office and has been in the process of being updated. It is expected that before the Record of Decision for this LRMP is signed, the 2013 update to the sensitive species list will be officially completed. The species listed in Table E1 are those species that are currently listed as Forest Service Sensitive (FSS) for the LTBMU, as revised by the Regional Forester of Region 5 on June 30, 2013.

Table E1. Forest Service Sensitive (FSS) List for the LTBMU.

FSS - Group	Common Name	Scientific Name
Amphibians	**Sierra Nevada yellow-legged frog**	*Rana sierrae*
Birds	**Bald Eagle**	*Haliaeetus leucocephalus*
	California Spotted Owl	*Strix occidentalis occidentalis*
	Northern Goshawk	*Accipiter gentiles*
	Willow Flycatcher	*Empidonax traillii adastus*
	Great Gray Owl	(*Strix nebulosa*)
Fish	**Lahontan Lake tui chub**	(*Gila bicolor pectinifer)*
Invertebrate	**Great Basin rams-horn**	*Helisoma newberryi newberryi*
	Western bumble bee	*Bombus occidentalis*
Mammals	**American marten**[1]	*Martes americana*
	California wolverine	*Gulo gulo luteus*
	Townsend's big-eared bat	*Corynorhinus townsendii*
	Fringe-tailed myotis	*Myotis thysanodes*
	Pallid bat	*Antrozous pallidus*
Plants	**Blandow's bog moss.**	*Helodium blandowii*

FSS - Group	Common Name	Scientific Name
Plants	**Bolander's candle moss.**	*Bruchia bolanderi*
	Branched collybia.	*Dendrocollybia racemosa*
	Blandow's bog moss	*Helodium blandowii*
	Broad-nerved hump-moss.	*Meesia uliginosa*
	Common moonwort.	*Botrychium lunaria*
	Cup Lake draba.	*Draba asterophora var macrocarpa*
	Donner Pass buckwheat	*Eriogonum umbellatum* var. *torreyanum*
	Galena Creek rock cress.	*Arabis rigidissima var demota*
	Goldencarpet buckwheat	*Eriogonum luteolum* var. *saltuarium*
	Kellogg's lewisia.	*Lewisia kelloggii ssp.hutchisonii*
	Kellogg's lewisia.	*Lewisia kelloggii ssp kelloggii*
	Long-petaled lewisia.	*Lewisia longipetala*
	Mineral King draba	*Draba cruciata*
	Mingan moonwort.	*Botrychium minganense*
	orthotrichum moss	*Orthotrichum praemorsum*
	Plumas ivesia	*Ivesia sericoleuca*
	Scalloped moonwort.	*Botrychium crenulatum*
	Short-leaved hulsea.	*Hulsea brevifolia*
	Slender moonwort.	*Botrychium lineare*
	Starved daisy.	*Erigeron miser*

FSS - Group	Common Name	Scientific Name
Plants	**Tahoe draba.**	*Draba asterophora var asterophora*
	Tahoe yellow cress.	*Rorippa subumbellata*
	Tiehm's rock cress.	*Boechera tiehmii*
	Tulare rockcress	*Boechera tularensis*
	Upswept moonwort.	*Botrychium ascendens*
	Goward's water fan	*Peltigera gowardii*
	Western goblin	*Botrychium montanum*
	White bark Pine	*Pinus albicaulis*

E.2.3. TRPA Threshold Species and Sensitive Species

In order to help maintain and protect natural resources in the Lake Tahoe Basin, the Tahoe Regional Planning Compact formed the Tahoe Regional Planning Agency (TRPA) Regional Plan. Two documents provide guidelines for management of special status species: the Goals and Policies (TRPA 1986) and the Code of Ordinances and Rules of Procedure (TRPA 2012).

For fisheries and wildlife resources, TRPA created and adopted environmental threshold carrying capacities ("thresholds" or "threshold standards") The Forest Service analyzes environmental conseqeunces for the TRPA threshold species (listed in Table E2) to support attainment of the TRPA environmental threshold carrying capacities for fisheries and wildlife.

For botanical resources, TRPA designated five plants species as Sensitive: *Rorippa subumbellata* (Tahoe yellow cress); *Arabis rigidissima var. demota* (Galena Creek rock cress); *Lewisia longipetala* (long-petaled Lewisia); *Draba asterophora v. macrocarpa* (Cup Lake draba); and *Draba asterophora v. asterophora (*Tahoe draba). In addition, TRPA strives for "non-degradation of the natural qualities of any plant community that is uncommon to the Basin or of exceptional scientific, ecological, or scenic value" (TPRA 2012). The direction specifically applies but is not limited to: deep-water plants of Lake Tahoe; Grass Lake; Osgood Swamp; Hell Hole; Upper Truckee Marsh; Taylor Creek Marsh; Freel Peak Cushion Plant Community; and Pope Marsh.

The Forest Serivce analysis environmental condequences for TRPA sensitive plants species and uncommon plant communities to meet the standards and guidelines outlines in the 2012 Code of Ordinances.

Additional information and updates to this list can be found at the TRPA website: http://www.trpa.org/ .

Table E2. TRPA Threshold Species List

TRPA Threshold Species	Population Sites	Disturbance Zone (mi.)
Northern goshawk (*Accipter gentiles*)	12	0.50
Osprey (*Pandion haliaetus*)	4	0.25
Bald eagle (winter) (*Haliaeetus leucocephalus*)	2	Mapped
Bald eagle (nesting)	1	0.50
Golden eagle (*Aquila chrysaetos*)	4	0.25
Peregrine falcon (*Falco peregrinus anatum*)	2	0.25
Waterfowl	18	Mapped
Mule deer (*Odocoileus hemionus*)	Critical fawning habitat	Meadows-Critical fawning habitat is mapped

E.2.4. Invasive Species

The LTBMU has identified and mapped areas on the Forest that include species identified as invasive by California Department of Food and Agriculture's (CDFA), Nevada Department of Agriculture (NDA), California Invasive Plant Council, Lake Tahoe Basin Weed Coordinating Group, and Lake Tahoe Aquatic Invasive Species Coordinating Committee .

Invasive species rankings incorporates ecological impacts, invasive potential, and potential for effective management and control. High priority species are species that have likelihood for high ecological impacts, a high probability for invasion, and potential for effective management and control. The LTBMU works with interagency working groups to identify high, medium and low ranks for invasive species.

E.2.4.1. Terrestrial Invasive Plant Species

There are several entities that maintain invasive plant lists that are utilitized for management of terrestrial invasive plant speices on LTBMU.

The NDA maintains a state noxious weed list that categorizes species into three categories: Category A—Weeds not found or limited in distribution throughout the state; actively excluded from the state and actively eradicated wherever found; actively eradicated from nursery stock dealer premises; control required by the state in all infestations. Category B—Weeds established in scattered populations in some counties of the state; actively excluded where possible, actively eradicated from nursery stock dealer premises; control required by the state in areas where populations are not well established or previously unknown to occur. Category C—Weeds currently established and generally widespread in many counties of the state; actively eradicated from nursery stock dealer premises; abatement at the discretion of the state quarantine officer. (http://agri.nv.gov/nwac/PLANT_NoxWeedList.htm)

The CDFA maintains a state noxious weed list that categorizes species into four categories: A--Eradication or containment is required at the state or county level. B—Eradication or containment is at the discretion of the County Agricultural Commissioner. C--Require eradication or containment only when found in a nursery or at the discretion of the County Agricultural Commissioner. Q—Require temporary "A" action pending determination of a permanent rating. (http://www.cdfa.ca.gov/phpps/ipc/)

California Invasive Plant Council (Cal-IPC) maintains an online invasive plant inventory (2007) that categorizes species into four categories: High—Species having severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Moderate—Species having substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Limited—Species that are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Alert—Species with significant potential for invading new ecosystems. (http://www.cal-ipc.org/ip/inventory/weedlist.php)

Lake Tahoe Basin Weed Coordinating Group (LTBWCG) maintains a priority weed list that is updated annually and categorizes species in two groups: Group 1--Watch for, report, and eradicate immediately. Group 2--Manage infestations with the goal of eradication.

The Forest Service reviews the lists created by the above entities and then prioritizes species known to occur on or very near LTBMU as follows: High—Species that have a large ecological impact or invasive potential; species that are easily controlled. Medium—Species that have a moderate ecological impact or invasive potential; species that may be difficult to control. Low—Species that have a low ecological impact or invasive potential; species that require substantial effort to control. As conditions change, new species may be found. As new species are documented, they are evaluated for inclusion on the LTBMU list. Addition of new species may change prioritization of other species. As such, the list is continuously updated.

Terminology

Control: With respect to invasive species (plant, pathogen, vertebrate, or invertebrate species), control is defined as any activity or action taken to reduce the population, contain, limit the spread, or reduce the effects of an invasive species. Control activities are generally directed at

established free-living infestations, and may not necessarily be intended to eradicate the targeted infestation in all cases. FSM 2900, Invasive Species Management

Early Detection: The process of finding, identifying, and quantifying new, small, or previously unknown infestations of aquatic or terrestrial invasive species prior to (or in the initial stages of) its establishment as free-living expanding population. Early detection of an invasive species is typically coupled with integrated activities to rapidly assess and respond with quick and immediate actions to eradicate, control, or contain it. FSM 2900, Invasive Species Management

Eradication: With respect to invasive species (plant, pathogen, vertebrate, or invertebrate species), eradication is defined as the removal or elimination of the last remaining individual invasive species in the target infestation on a given site. It is determined to be complete when the target species is absent from the site for a continuous time period (that is, several years after the last individual was observed). Eradication of an infestation of invasive species is relative to the time-frame provided for the treatment procedures. Considering the need for multiple treatments over time, certain populations can be eradicated using proper integrated management techniques. FSM 2900, Invasive Species Management

Invasive Species: Executive Order 13112 defines an invasive species as "an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health." The Forest Service relies on Executive Order 13112 to provide the basis for labeling certain organisms as invasive. Based on this definition, the labeling of a species as "invasive" requires closely examining both the origin and effects of the species. The key is that the species must cause, or be likely to cause, harm and be exotic to the ecosystem it has infested before we can consider labeling it as "invasive". Thus, native pests are not considered "invasive", even though they may cause harm. Invasive species infest both aquatic and terrestrial areas and can be identified within any of the following four taxonomic categories: Plants, Vertebrates, Invertebrates, and Pathogens. Additional information on this definition can be found in Executive Order 13112. FSM 2900, Invasive Species Management

Invasive Species Management: Activities to prevent, control, contain, eradicate, survey, detect, identify, inventory, and monitor invasive species; includes rehabilitation and restoration of affected sites and educational activities related to invasive species. Management actions are based upon species-specific or site-specific plans (including forest plans, IPM plans, watershed restoration plans, and so forth), and support the accomplishment of plan goals and objectives and achieve successful restoration or protection of priority areas identified in the respective plan(s). FSM 2900, Invasive Species Management

Native Plant Species: A plant species which occurs naturally in a particular region, state, ecosystem and habitat without direct or indirect human actions. FSM 2070, Vegetation Ecology

Noxious Weed: Defined for the Federal Government in the Plant Protection Act of 2000 as "any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry, or other interests of agriculture, irrigation, navigation, the natural resources of the United States, the public health, or the environment." The term typically describes species of plants that have been determined to be undesirable or injurious in some capacity. State statues for noxious weeds vary widely, with some States lacking any laws defining or regulating noxious weeds. Depending on the individual State law, some plants listed by a State statute as "noxious" may be native plants which that State has determined to be undesirable. When the species are native, they are not considered invasive species by the Federal Government. FSM 2900, Invasive Species Management

Plant Materials: Seeds, spores, parts of plants or whole plants. FSM 2070, Vegetation Ecology

Prevention: Any activity or action taken to reduce or eliminate the chance of an invasive species entering or becoming established in a particular area. Preventative activities can include projects for education and awareness as well as more traditional prevention activities such as vehicle/equipment cleaning, boat inspections, or native plant restoration plantings. FSM 2900, Invasive Species Management

Rapid Response: With respect to invasive species (plant, pathogen, vertebrate, or invertebrate species), rapid responses are defined as the quick and immediate actions taken to eradicate, control, or contain infestations that must be completed within a relatively short time to maximize the biological and economic effectiveness against the targeted invasive species. Depending on the risk of the targeted invasive species, rapid response actions may be supported by an emergency situation determination and emergency considerations would include the geographic extent of the infestation, distance from other known infestations, mobility and rate of spread of the invasive species, threat level and potential impacts, and available treatments. FSM 2900, Invasive Species Management

Rehabilitation: Reparation of ecosystem processes, productivity and services based on functioning pre-existing or existing ecosystems, but allowing for adaptation of sites to specific current or future uses. FSM 2070, Vegetation Ecology

Restoration: Assisting the recovery of an ecosystem that has been degraded, damaged or destroyed including the re-establishment of the pre-existing biotic integrity in terms of species composition and community structure. FSM 2070, Vegetation Ecology

Revegetation: Re-establishment of plants on a site. FSM 2070, Vegetation Ecology

Survey: An invasive species survey is a process of systematically searching a geographic area for a particular (targeted) invasive species, or a group of invasive species, to determine if the species exists in that area. It is important to know where and when surveys have occurred, even if the object of the survey (target species) was not located. Information on the absence of an invasive species can be as valuable as information on the presence of the species, and can be used as a foundation to an early detection system. FSM 2900, Invasive Species Management

Treatment: Any activity or action taken to directly prevent, control, or eradicate a targeted invasive species. Treatment of an invasive species infestation may not necessarily result in the elimination of the infestation, and multiple treatments on the same site or population are sometimes required to affect a change in the status of the infestation. Treatment activities typically fall within any of the four general categories of integrated management techniques: Biological treatments, Cultural treatments, Mechanical treatments, or Chemical treatments. For example, the use of domestic goats to control invasive plants would be considered a biological treatment; the use of a pesticide to control invasive fishes would be characterized as a chemical treatment; planting of native seeds used to prevent invasive species infestations and restore a degraded site would be considered a cultural treatment technique; developing an aquatic species barrier to prevent invasive species from spreading throughout a watershed would be considered a physical treatment; cleaning, scraping, or otherwise removing invasive species attached to equipment, structures, or vehicles would be considered a mechanical treatment designed to directly control and prevent the spread of those species. FSM 2900, Invasive Species Management

Table E3. Terrestrial Invasive Plant Species (Noxious Weed) of Management Concern on LTBMU

Common Name	Scientific Name	LTBMU Priority	NDA	CDFA	Cal-IPC	LTB WCG
bull thistle	*Cirsium vulgare*	High		C	Moderate	Group 2
Canada thistle	*Cirsium arvense*	Medium	C	B	Moderate	Group 1
cheat grass	*Bromus tectorum*	Low			High	
curlyleaf pondweed	*Potamogeton crispus*	N/A			Moderate	
Dalmatian toadflax	*Linaria genistifolia* spp. *dalmatica*	High	A	A	Moderate	Group 2
diffuse knapweed	*Centaurea diffusa*	Medium	B	A	Moderate	Group 1
Dyer's woad	*Isatis tinctoria*	Medium	A	B	Moderate	Group 1
Eurasian watermilfoil	*Myriophyllum spicatum*	N/A	A		High	
globe-podded hoary cress; hairy whitetop	*Cardaria pubescens*	Medium		B	Limited	Group 1
heart-podded hoary cress; whitetop	*Cardaria draba*	Medium	C	B	Moderate	Group 1
Himalaya blackberry	*Rubus armeniacus*	Low			High	
hydrilla; waterthyme	*Hydrilla verticillata*	N/A	A	A	High; Alert	
medusahead	*Elymus caput-medusae*	High	B	C	High	Group 1
musk thistle	*Carduus nutans*	High	B	A	Moderate	Group 1
oxeye daisy	*Leucanthemum vulgare*	Medium			Moderate	Group 2
poison hemlock	*Conium maculatum*	Medium	C		Moderate	

Common Name	Scientific Name	LTBMU Priority	NDA	CDFA	Cal-IPC	LTB WCG
purple loosestrife	*Lythrum salicaria*	Medium	A	B	High	Group 1
purple starthistle; red starthistle	*Centaurea calcitrapa*	N/A	A	B	Moderate	Group 1
quackgrass	*Elytrigia repense*	N/A		B		
rush skeletonweed	*Chondrilla juncea*	High	A	A	Moderate	Group 1
Russian knapweed	*Acroptilon repens*	Medium	B	B	Moderate	Group 1
Scotch broom	*Cytisus scoparius*	Medium		C	High	Group 2
Scotch thistle	*Onorpordum acanthium* ssp. *acanthium*	High	B	A	High	Group 1
spotted knapweed	*Centaurea maculosa*	Medium	A	A	High	Group 2
squarrose knapweed	*Centaurea virgata* ssp. *squarrosa*	Medium	A	A	Moderate	
St. Johnswort; Klamathweed	*Hypericum perforatum*	Medium	A	C	Moderate	Group 2
stinkwort	*Dittrichia graveolens*	N/A			Moderate	Group 1
sulfur cinquefoil	*Potentilla recta*	Low	A	A		Group 1
tall whitetop; perennial pepperweed	*Lepidium latifolium*	Medium	C	B	High	Group 2
tamarisk; saltcedar	*Tamarix chinensis, T. ramosissima, & T. parvifolia*	High	C	B	High	Group 1

Common Name	Scientific Name	LTBMU Priority	NDA	CDFA	Cal-IPC	LTB WCG
teasel; Fuller's teasel	*Dipsacus fullonum*	N/A			Moderate	Group 1
tree of heaven	*Ailanthus altissima*	N/A		C	Moderate	Group 1
woolly mullein; common mullein	*Verbascum thapsus*	N/A			Limited	
yellow starthistle	*Centaurea solstitialis*	Medium	A	C	High	Group 1
yellow toadflax; butter & eggs	*Linaria vulgaris*	Medium	A		Moderate	Group 2

LTBMU: High—Species that have a large ecological impact or invasive potential; species that are easily controlled. Medium—Species that have a moderate ecological impact or invasive potential; species that may be difficult to control. Low—Species that have a low ecological impact or invasive potential; species that require substantial effort to control. N/A—species not evaluated.

NDA: Nevada Department of Agriculture Noxious Weed List (http://agri.nv.gov/nwac/PLANT_NoxWeedList.htm) Category A—Weeds not found or limited in distribution throughout the state; actively excluded from the state and actively eradicated wherever found; actively eradicated from nursery stock dealer premises; control required by the state in all infestations. Category B—Weeds established in scattered populations in some counties of the state; actively excluded where possible, actively eradicated from nursery stock dealer premises; control required by the state in areas where populations are not well established or previously unknown to occur. Category C—Weeds currently established and generally widespread in many counties of the state; actively eradicated from nursery stock dealer premises; abatement at the discretion of the state quarantine officer.

CDFA: California Department of Food and Agriculture Noxious Weed List (http://www.cdfa.ca.gov/phpps/ipc/). A--Eradication or containment is required at the state or county level. B—Eradication or containment is at the discretion of the County Agricultural Commissioner. C--Require eradication or containment only when found in a nursery or at the discretion of the County Agricultural Commissioner. Q—Require temporary "A" action pending determination of a permanent rating.

Cal-IPC: California Invasive Plant Council Online Invasive Plant Inventory (2006) (http://www.cal-ipc.org/ip/inventory/weedlist.php). High—Species having severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Moderate—Species having substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Limited—Species that are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Alert—Species with significant potential for invading new ecosystems.

LTBWCG: Lake Tahoe Basin Weed Coordinating Group Weed Priority List (2010). Group 1--Watch for, report, and eradicate immediately. Group 2--Manage infestations with the goal of eradication.

E.2.4.2. Aquatic Invasive Species

The Lake Tahoe Region AIS Program is governed by existing Federal, State and local laws. Those relevant to water quality and/or to aquatic invasive species include but are not limited to:

Federal

- Nonindigenous Aquatic Nuisance Prevention and Control Act (NANPCA) of 1990, 16 USC 4721
- Endangered Species Act (ESA) of 1973
- Lacey Act of 1990 as amended in 1998
- National Environmental Policy Act of 1970
- National Invasive Species Act of 1996 (NISA)
- Clean Water Act of 1972
- Safe Drinking Water Act of 1974

State

- California-Nevada Compact for Jurisdiction on Interstate Waters
- California Environmental Quality Act (CEQA)
- California Fish and Game Code 2301
- Nevada Revised Statutes (NRS 503.597; NRS 488)

Regional

- Tahoe Regional Planning Compact (Public Law 96-551)
- Tahoe Regional Planning Agency Code of Ordinances (Chapter 79.3)

Further information on authorities and the parameters and abilities of the Lake Tahoe Region AIS program is provided in the *Lake Tahoe Region Aquatic Invasive Species Management Plan* which is available at http://www.trpa.org/documents/docdwnlds/AIS/LTAIS_Magmt_Plan_Final_11-2009.pdf.

AIS program in the Lake Tahoe Basin, including the LTBMU, is managed by the AIS Coordinating Committee. Members include representatives from the following government agencies and entities:

Federal

- USDOI, US Fish and Wildlife Service
- USDA, Agricultural Research Service
- USDA, US Forest Service, Lake Tahoe Basin Management Unit

State

- California Department of Fish & Game
- California Department of Parks and Recreation
- California Regional Water Quality Control Board (Lahontan)
- California State Lands Commission
- California Tahoe Conservancy
- Nevada Department of Conservation and Natural Resources
- Nevada Department of Wildlife

Regional

- Tahoe Regional Planning Agency
- Tahoe Resource Conservation District
- Tahoe Science Consortium (ex-officio)

The information for aquatic invasive species are continually updated and modified annually as new invasive species are identified, new sites are identified, and as management actions eradicate invasive. The list of aquatic invasive species presented in this section are the current aquatic invasive species that are considered of concern for the LTBMU.

Table E4. Aquatic Invasive Species List

Group	Common	Scientific
Aquatic	**Corbicula (Asian Clam)**	*Corbicula fluminea*
	Zebra Mussel	*Dreissena polymorpha*
	Quagga Mussel	*Dreissena rostriformis bugensis*
	New Zealand Mudsnail	*Potamopyrgus antipodarum*
	Bullhead Catfish	*Ameiurus spp.*
	Bluegill	*Lepomis macrochirus*
	Largemouth Bass	*Micropterus salmoides*
	Crappie	*Pomoxis spp.*
	Bullfrog	*Rana catesbeiana*

E.2.5. Species Specific Limited Operating Periods

This section notes the current expected limited operating periods for specific species that can be updated as new information becomes available and or as new species become listed or delisted. The following limited operating periods have been established to conform to the LTBMU site conditions. Design features, including limited operating periods, may change or be added over the Life of the Plan based on species status including new species detection and/or species removals/additionas to TECPS lists.

E.2.5.1. Sierra Nevada (mountain) yellow-legged frog

Maintain a Sierra Nevada yellow-legged frog (Rana sierrae) LOP April 15 through August 15 within a minimum of 25 feet of known breeding sites. Prohibit habitat manipulation or other activity that could create bank disturbance unless surveys confirm that egg masses are not present.

E.2.5.2. Cliff Nesting Raptors

Do not construct roads and trails within ¼ mile of the top or base of known cliff nesting raptor sites. Prohibit activities such as rock climbing that may disrupt breeding during the raptor nesting season (April 1-July 31). Determine the distance to prohibit activities from an occupied nest based on nest location, nesting pair behavior, and cliff features that either expose or visually/audibly protect the nest from disturbance.

E.2.5.3. Marten

Maintain a marten LOP (March 15 through July 31)within ½ mile of a known den site. Prohibit vegetation treatments and other activities that may disrupt breeding (e.g. timber thinning, prescribed fire, restoration, construction, road or trail building) within this area during the breeding season. If a female marten is detected in the planned activities area or within 0.5 mile radius of the activity site, their detection locations are buffered by 700 acres (equal to approximate average female home range size) of the best available habitat to encompass the likely den sites.

Marten Waiver - The LOP may be waived for individual projects of limited scope and duration, when a biological evaluation documents that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing, and specific location.

E.2.5.4. Willow flycatcher

Maintain a willow flycatcher LOP during the breeding season for activities that are likely to disrupt breeding within ¼ mile of occupied nest sites or habitat during the period of June 1 through August 31 (including no timber thinning, prescribed fire, restoration activities, grazing, utilities work, road or trail building).

E.2.5.5. Townsend's big-eared Bat

Maintain a Townsend's big-eared bat LOP May 1 through August 31 within a minimum of 300 feet of roost sites. Prohibit habitat manipulation or other activity that could create a noise disturbance unless surveys confirm that bats are not present; Prohibit burning near a roost site unless surveys confirm bats are not present or smoke will not enter the roost. Exceptions may be permitted when surveys confirm bats are not present.

E.2.5.6. California Spotted Owl and Northern Goshawk - Breeding

Maintain a California spotted owl and /or northern goshawk LOP during the breeding season (March 1 through August 31 for California spotted owls and February 15 through September 15 for Northern Goshawk) for activities that may disrupt breeding within a minimum of ¼ mile of the nest site or activity center, unless surveys confirm that spotted owls are not nesting. When the location of the nest site or activity center is uncertain, conduct surveys to establish or confirm the location prior to implementing activities.

E.2.5.7. California Spotted Owl and Northern Goshawk – Vegetation Treatments Waiver

The spotted owl and/or northern goshawk LOP may be waived for vegetation treatments when a biological review determines that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing, and specific location. The LOP buffer distance may be modified when a biological review concludes that a nest site would be shielded from planned activities by topographic features that would minimize disturbance.

E.2.5.8. California Spotted Owl and Northern Goshawk – Prescribed Fire Waiver

The spotted owl and/or northern goshawk LOP restrictions may be waived, where necessary, to allow for use of early season prescribed fire in PACs when surveys for the target species (per current protocol standards by Region 5) demonstrate that reproduction has not occurred within the PAC in at least the previous three years and the PAC was not occupied during the previous breeding season.

E.2.6. Full List of Species Considered for the Draft EIS

The table presented in this section displays the full list of FWS, LTBMU Sensitive, and other species considered for inclusion in the Final LRMP and EIS. For species selected as "secure" - those species are noted as having "general species and habitat management guidance" and have been addressed in general biological program desired condition and strategies . For species considered as "not secure" - those species are noted as having "species specific management direction guidance" that are in addition to the general species and habitat guidance found in the LRMP such as specific desired conditions, objectives, S&G, and or LOPs.

Species Considered - "N/A" indicates that a species was considered, but not included in the Draft EIS for analysis based on what is described in the "comments / rationale" column.

Status Definitions (NatureServe Rankings) - : G = Global Conservation Status - full species, range-wide; T = Global Conservation Status - subspecies, varieties, and population range-wide; N = National Conservation Status; S = State / Province Status; 1 = Critically Imperiled; 2 = Imperiled; 3 = Vulnerable; 4 = Apparently Secure; 5 = Secure.

Detailed information for all species can be found at: **http://www.natureserve.org/explorer/index.htm**. Just enter the species common or scientific name in the species quick search box and follow the on-line instructions. In cases where additional reference information was needed (beyond Nature Serve) to determine if the species would be carried forward for further consideration, the reference link is added into the "comments / rationale" column of the species table.

Table E5. Complete List of Species Considered within the LTBMU Draft EIS.

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Amphibians	**California Red-legged Frog**	*Rana draytonii*	G2G3 Federally Threatened, SSC	riparian, ponds	N/A	species occurs outside the LTBMU - Lake Tahoe Watershed; also not on FWS list
Amphibians	**Foothill Yellow-legged Frog**	*Rana boylii*	G3, SSC	Rivers, Riparian	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Amphibians	**Mount Lyell Salamander**	*Hydromantes platycephalus*	G3, SSC S3 (CA)	riparian, logs, woody debris	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Amphibians	**Northern Leopard Frog**	*Rana pipiens*	G5, S2 (CA) S2S3 (NV), FSS	rivers, wetlands	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Amphibians	**Pacific tree frog**	*Pseudacris regilla*	MIS	Wet meadow (WTM), freshwater emergent wetland (FEW)	YES General Desired Conditions & Strategies – Biological Resource Program EIS Chapter 3.4.14	SECURE MIS

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Amphibians	**Sierra Nevada Yellow-legged Frog**	*Rana sierrae*	G1 Federally Proposed Endangered, FSS	small lakes and wetlands	Yes DCs 76 Strategies – Biological Resource Program Objectives 31-33 S&Gs 89, 90 LOP App. E.2.5	NOT SECURE Species Specific Management
Amphibians	**Western Spadefoot**	*Spea hammondii*	G3, SSC, S3	intermittent pools, grasslands	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Amphibians	**Western Toad**	*Bufo boreas*	G4, S5 (CA) S4 (NV)	meadow, riparian	Yes DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63	SECURE Aquatic Ecosystem Management

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Amphibians	**Yosemite Toad**	*Bufo canorus*	G2 Federally Proposed Endangered	meadow, riparian	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Arachnids	**A Cave Obligate Harvestman**	*Banksula galilei*	G1	only found in caves in Placer County	N/A	species occurs outside the LTBMU - Lake Tahoe Watershed
Birds	**American Avocet**	*Recurvirostra americana*	G5, SNRB,SNRN (CA) S4B (NV), GB	riparian, marshes	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to rare occurrence within the LTBMU
Birds	**American Golden Plover**	*Pluvialis dominica*	G5, SNA (CA) SNA (NV), GB	riparian, grasslands, sand dunes	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Birds	**American White Pelican**	*Pelecanus erythrorhynchos*	G3, SSC S1 (CA), S2B NV	riparian	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to occasional occurrence within the LTBMU

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**Bald Eagle**	*Haliaeetus leucocephalus*	G5, SE FP CDF:S S2 (CA) S1B,S3N (NV), TRPA-SI; FSS	Snags, Cliffs, Riparian, General Forest	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE General Habitat Management
Birds	**Bank Swallow**	*Riparia riparia*	G5, ST S2S3 (CA) S3B (NV)	riparian, grasslands	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Birds	**Black-backed Woodpecker**	*Picoides arcticus*	G5, S3 (CA) S1 (NV) , MIS	snags,burned conifer forests	Yes General Desired Conditions & Strategies – Biological Resource Program S&G 56, 57 EIS Chapter 3.4.14	MIS General Forest Management
Birds	**Black Rail**	*Laterallus jamaicensis coturniculus*	G4, S1 (CA)	wetlands	N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**Black Swift**	*Cypseloides niger*	G4, SSC S2 (CA) GB, SN	Aerial, Bare rock/talus/scree, Cliff	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to rare occurrence within the LTBMU
Birds	**Brewer's Sparrow**	*Spizella breweri*	G5, S3 (CA) S4B (NV) GB	desert, shrublands	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to rare occurrence within the LTBMU
Birds	**Burrowing Owl**	*Athene cunicularia*	G4, SSC S2 (CA), S3B (NV) GB	Grasslands	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Birds	**California Black Rail**	*Laterallus jamaicensis coturniculus*	G4T1, ST FP, S1 (CA)	wetlands	N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**California Spotted Owl**	*Strix occidentalis occidentalis*	G3T3, SSC S3 (CA), S1N (NV) GB, SN, FSS, TRPA-SI; MIS	snags, general forest	Yes DCs 71-74 Strategies – Biological Resource Program Objective 25 S&Gs 84-88 LOPs App. E.2.5 EIS Chapter 3.4.14	NOT SECURE Species Specific Management
Birds	**Cooper's Hawk**	*Accipiter cooperii*	G5 S3	riparian, general forest	N/A	uncommon in LTBMU
Birds	**Ferruginous Hawk**	*Buteo regalis*	G4, S3S4 (CA) S2 (NV) GB	Desert, grassland, riparian, cliffs	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to accidental occurrence within the LTBMU

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**Flammulated Owl**	*Otus flammeolus*	G4, S2S4 GB, SN	snags, general forest	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE General Forest Management
Birds	**Golden Eagle**	*Aquila chrysaetos*	G5, FP, TRPA-SI CDF:S, S3 (CA) , S4 (NV)	Alpine, Cliffs	Yes DC 65 Strategies – Biological Resource Program Objective 19 S&G 61	SECURE Cliffs, Caves, and Cave Surrogates Management
Birds	**Grasshopper Sparrow**	*Ammodramus savannarum*	G5, SSC, S2 (CA, SU (NV)	grasslands	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Birds	**Gray Vireo**	*Vireo vicinior*	G4, SSC S2 (CA), S3B (NV) GB	riparian, general forest	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Birds	**Great Blue Heron**	*Ardea herodias*	G5, S4 (CA) S5 (NV)	Riparian	N/A	local population considered secure
Birds	**Great Egret**	*Ardea alba*	G5, S4 (CA) S4B (NV)	Riparian	N/A	local population considered secure

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**Great Gray Owl**	*Strix nebulosa*	G5, SE CDF:S, S1 (CA), FSS	riparian, general forest	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE species occurs outside the LTBMU - Lake Tahoe watershed – habitat management
Birds	**Greater Sage Grouse**	*Centrocercus urophasianus*	GB, SSC, S3 (CA) S3S4 (NV)	desert, grassland, shrubs	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Birds	**Hairy Woodpecker**	*Picoides villosus*	MIS	Medium and large snags in green forest	YES General Desired Conditions & Strategies – Biological Resource Program EIS Chapter 3.4.14	SECURE MIS
Birds	**Harlequin Duck**	*Histrionicus histrionicus*	G4, S2 (CA)	Rivers, Riparian	N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**Lewis's Woodpecker**	*Melanerpes lewis*	G4, SNR (CA) S3 (NV) GB, SN	riparian, general forest	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to occasional occurrence within the LTBMU
Birds	**Loggerhead Shrike**	*Lanius ludovicianus*	G4, SSC S4 (CA) , S4 (NV) GB	grasslands	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to rare occurrence within the LTBMU
Birds	**Long-billed Curlew**	*Numenius americanus*	G5, S2 (CA) S2S3B (NV) GB	grassland, riparian	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to rare occurrence within the LTBMU
Birds	**Marbled Godwit**	*Limosa fedoa*	SNRN (CA) S3M (NV) GB	grasslands , sand dunes	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to rare occurrence within the LTBMU

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**Mountain Plover**	*Charadrius montanus*	G2	desert, grasslands	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Birds	**Mountain Quail**	*Oreortyx pictus*	MIS	Ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), eastside pine (EPN), tree sizes 1, 2, 3, and 4 all canopy closures	YES General Desired Conditions & Strategies – Biological Resource Program EIS Chapter 3.4.14	MIS
Birds	**Northern Goshawk**	*Accipiter gentilis*	G5, S2S3, FSS, SSC, CDF:S, TRPA-SI;	riparian, general forest, late seral closed canopy	Yes DCs 71, 72, 74 Strategies – Biological Resource Program Objective 26 S&Gs 84-88 LOP App. E.2.5	NOT SECURE Species Specific Management

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**Olive-sided Flycatcher**	*Contopus cooperi*	G4, SSC S4 (CA) S2B (NV) SN	Riparian, Wetlands, General Forest	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE General Forest Management
Birds	**Osprey**	*Pandion haliaetus*	G5, CDF:S S3 (CA) S1B, S3M (NV), TRPA-SI	Snags, Cliffs, Riparian, Shorelines	Yes DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63	SECURE Aquatic Ecosystem Management; General Forest Management
Birds	**Peregrine falcon**	*Falco peregrinus*	G4, SCD FP S2B,SNR N (CA) S2 (NV) GB, SN, TRPA-SI	Aerial, Cliffs, General Forest	Yes DC 65 Strategies – Biological Resource Program Objective 19 S&G 61	SECURE Cliffs, Caves, and Cave Surrogates Management

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**Prairie Falcon**	*Falco mexicanus*	S3 (CA) S4 (NV) GB	Alpine, Cliffs	Yes DC 65 Strategies – Biological Resource Program Objective 19 S&G 61	SECURE Cliffs, Caves, and Cave Surrogates Management
Birds	**Rufous Hummingbird**	*Selasphorus rufus*	G5, S1S2 (CA) S3M (NV), SN	riparian, alpine, conifer forest	Yes - DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63	SECURE Aquatic Ecosystem Management
Birds	**Sage Sparrow**	*Amphispiza belli*	G5, SNRB,SNRN (CA) S4B,S4N (NV), GB	desert, shrubland	N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**Sanderling**	*Calidris alba*	G5, SNRN (CA) SNA (NV), GB	Riparian, sand dunes	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to accidental occurrence within the LTBMU
Birds	**Sharp-shinned Hawk**	*Accipiter striatus*	G5 S3	riparian, general forest	N/A	uncommon in LTBMU
Birds	**Solitary Sandpiper**	*Tringa solitaria*	G5, SNA (CA) S4N (NV), GB	wetlands, grasslands	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Birds	**Souty (Blue) Grouse**	*Dendragapus obscurus*	MIS	Ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), eastside pine (EPN), tree size 5, canopy closures S and P	YES General Desired Conditions & Strategies – Biological Resource Program EIS Chapter 3.4.14	MIS

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**Swainson's Hawk**	*Buteo swainsoni*	G5, S2 (CA) S2B (NV) GB, ST	Desert, grassland, riparian, woodlands	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to accidental occurrence within the LTBMU
Birds	**Tricolored Blackbird**	*Agelaius tricolor*	G2G3, S1(NV) S2 (CA), GB, SN, SSC	grasslands	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Birds	**Virginia's warbler**	*Vermivora virginiae*	S2S3 (CA) S4B (NV), GB	riparian, general forest	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Birds	**Western Snowy Plover**	*Charadrius alexandrinus nivosus*	G4,T3, SSC S2 (CA) S3B (NV) GB	Riparian, sand dunes	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Birds	**Western Yellow-billed Cuckoo**	*Coccyzus americanus occidentalis*	G5T3Q Candidate, SE S! (CA) S1B (NV)	Riparian, Wetlands, General Forest	N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**Whimbrel**	*Numenius phaeopus*	G5, SNRN (CA) SNA (NV), GB	grassland, riparian	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to accidental occurrence within the LTBMU
Birds	**White-Faced Ibis**	*Pegadis chihi*	G5, S1 (CA) S3B (NV)	riparian	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Birds	**White-headed Woodpecker**	*Picoides albolarvatus*	G4, SNR (CA) S2 (NV), GB, SN	snags, conifer forests	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE General Forest Management
Birds	**White-tailed Kite**	*Elanus leucurus*	G5, FP S3 (CA)	croplands, riparian	N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**Willow Flycatcher**	*Empidonax traillii adastus*	G5T5, SE S1S2, S3B (NV), FSS	wet meadow	Yes DCs 46-49 Strategies – Biological Resource Program Objective 20 S&G 142 LOP App. E.2.5	NOT SECURE Species Specific Management
Birds	**Williamson's Sapsucker**	*Sphyrapicus thyroideus*	G5, S3 (CA) S2 (NV) GB, SN	snags, general forest	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE General Forest Management
Birds	**Wilson's Phalarope**	*Phalaropus tricolor*	G5, SNRB,SNRN (CA) S2S3B,S4M (NV) GB	grassland, riparian	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to rare occurrence within the LTBMU
Birds	**Yellow-billed Cuckoo**	*Coccyzus americanus*	G5,SNRB (CA) S1B (NV)	Riparian, General Forest	N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Birds	**Yellow-headed Blackbird**	*Xanthocephalus xanthocephalus*	G5, SSC S3S4 (CA), S4B (NV)	wetlands, grasslands	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to occasional occurrence within the LTBMU
Birds	**Yellow Rail**	*Coturnicops noveboracensis*	G4, SSC S1S2 (CA) GB	riparian, grasslands	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Birds	**Yellow Warbler**	*Dendroica petechia brewsteri*	G5T3?, SSC S2 (CA) , MIS	riparian	Yes DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63 EIS Chapter 3.4.14	MIS Aquatic Ecosystem Management
Crustaceans	**California Fairy Shrimp**	*Linderiella occidentalis*	G3G4	vernal pools	N/A	species occurs outside the LTBMU - Lake Tahoe Watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Crustaceans	**Vernal Pool Fairy Shrimp**	*Branchinecta lynchi*	G3 Federally Threatened	vernal pools	N/A	species occurs outside the LTBMU - Lake Tahoe Watershed; also not on FWS list
Crustaceans	**Vernal Pool Tadpole Shrimp**	*Lepidurus packardi*	G4 Federally Endangered	vernal pools	N/A	species occurs outside the LTBMU - Lake Tahoe Watershed
Fish	**Wall Canyon Sucker**	*Catastomus sp. 1*	G1	lakes and streams	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Fish	**Warner Sucker**	*Catastomus warnerensis*	G1 Federally Threatened	lakes and streams	N/A	species occurs outside the LTBMU - Lake Tahoe Watershed; also not on FWS list
Fish	**Mountain Sucker**	*Catostomus platyrhynchus*	G5, S2S3	streams	N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Fish	**Tahoe Sucker**	*Catostomus tahoensis*	G5	streams	Yes DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63	SECURE Aquatic Ecosystem Management, concern for local population
Fish	**Cui-ui**	*Chasmistes cujus*	G1 Federally Endangered	streams	N/A	species occurs outside the LTBMU - Lake Tahoe Watershed; also not on FWS list
Fish	**Piute Sculpin**	*Cottus beldingi*	G5, S4	streams	Yes DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63	SECURE Aquatic Ecosystem Management, concern for local population

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Fish	**Sheldon Tui Chub**	*Gila bicolor eurysoma*	G4T1	streams	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Fish	**Lahontan Lake Tui Chub**	*Gila bicolor pectinifer*	G4T3, S1S2, FSS	large lakes, lakezone	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Aquatic Ecosystem Management,
Fish	**High Rock Spring Tui Chub**	*Gila bicolor ssp. 11*	G4TX	streams	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Fish	**Cowhead Lake Tui Chub**	*Gila bicolor vaccaceps*	G4T1	Cowhead slough	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Fish	**Delta smelt**	*Hypomesus transpacificus*	G1, S1, Federally threatened	California delta	N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Fish	**Lahontan Cutthroat Trout**	*Oncorhynchus clarkii henshawi*	G4T3 Fedrally Threatened	large lakes and streams	Yes DCs 75 Strategies – Biological Resource Program Objectives 27-30 S&Gs 89, 91	NOT SECURE Species Specific Management
Fish	**Paiute Cutthroat Trout**	*Oncorhynchus clarkii seleniris*	G4T1T2	large lakes and streams	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Fish	**Rainbow Trout**	*Oncorhynchus mykiss*	G5	lakes and streams	Yes DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63	SECURE Recreational fisheries, Aquatic Ecosystem Management

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Fish	**Central Valley steelhead**	*Oncorhynchus mykiss pop. 11*	G5T2Q, Federally Threatened	lakes and streams	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Fish	**Redband Trout - Warner Valley**	*Oncorhynchus mykiss pop. 4*	G5T2Q	lakes and streams	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Fish	**Kokanee Salmon**	*Oncorhynchus nerka*	G5	lakes and streams	Yes DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63	SECURE Recreational fisheries, Aquatic Ecosystem Management

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Fish	**Mountain Whitefish**	*Prosopium williamsoni*	G5, SNR (NV)	lakes and streams	Yes DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63	SECURE Aquatic Ecosystem Management; concern for local population
Fish	**Lahontan Redside Shiner**	*Richardsonius egregius*	G5	rivers, lakezone	Yes DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63	SECURE Aquatic Ecosystem Management; concern for local population

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Fish	**Brown Trout**	*Salmo trutta*	G5	lakes and streams	Yes DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63	SECURE Recreational fisheries, Aquatic Ecosystem Management
Fish	**Brook Trout**	*Salvelinus fontinalis*	G5	lakes and streams	Yes DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63	SECURE Recreational fisheries, Aquatic Ecosystem Management

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Fish	**Lake Trout**	*Salvelinus namaycush*	G5	lakes	Yes DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63	SECURE Recreational fisheries, Aquatic Ecosystem Management
Insects	**A Vernal Pool Andrenid Bee**	*Andrena blennospermatis*	G2	vernal pools	N/A	species occurs outside the LTBMU - Lake Tahoe Watershed
	An Andrenid Bee	*Andrena subapasta*	G1G3	grassland forbs	N/A	species occurs outside the LTBMU - Lake Tahoe Watershed - reference link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/invert/Insects_-_Hymenoptera/Andrena_subapasta.pdf

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Insects	**Tahoe Benthic Stonefly**	*Capnia lacustra*	G1	deep water habitats (> 100feet) of Lake Tahoe	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components
	Carson Valley Wood Nymph	*Cercyonis pegala carsonensis*	G5T2 S1S2 (CA) / S2 (NV)	Great Basin valleys on Nevada	N/A	species occurs outside the LTBMU - Lake Tahoe Watershed - reference link: http://www.flmnh.ufl.edu/butterflies/research/allyn_pdfs/AME135small.pdf
	Cosumnes Stripetail	*Cosumnoperla hypocrena*	G1	intermittent streams of the American and Cosumnes Rivers	N/A	species occurs outside the LTBMU - Lake Tahoe Watershed
	Kings Canyon Cryptochian Caddisfly	*Cryptochia excella*	G1G2	benthic, springs & brooks in specific locations in CA / NV	N/A	species occurs outside the LTBMU - Lake Tahoe Watershed - reference link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/invert/Insects_-_Trichoptera/Cryptochia_excella.pdf
	A Longhorned Beetle	*Desmocerus californicus*	G3	riparian forests of the Central Valley of CA	N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Insects	**Valley Elderberry Longhorn Beetle**	*Desmocerus californicus dimorphus*	G3T2 Federally Threatened	riparian forests of the Central Valley of CA	N/A	species occurs outside the LTBMU - Lake Tahoe Watershed - also not on LTBMU FWS list - reference link: http://essig.berkeley.edu/endins/desmocer.htm
	Amphibious Caddisfly	*Desmona bethula*	G2	high elevation, first order streams	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Dotted Blue	*Euphilotes enoptes aridorum*	G5T1	urban areas	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Mono Lake Checkerspot	*Euphydryas editha monoensis*	G5T2T3	Grasslands, herbaceous, Woodland, Conifer	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	A Montane Ant (Northern Sierra Endemic Ant)	*Formica microphthalma*	G2?	Conifer Forests	N/A	not confirmed to be on LTBMU; not considered in detail since they will not be affected by LTBMU management or potential plan components

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Insects	**Ricksecker's Water Scavenger Beetle**	*Hydrochara rickseckeri*	G1G2	Shallow water, creeks, springs, brooks	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Nevada Viceroy	*Limenitis archippus lahontani*	G5T1T2	riparian	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Sierra Needlefly	*Megaleuctra sierra*	G2Q	benthic, springs & brook	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Dune Honey Ant	*Myrmecocystus snellingi (=arenarius)*	G2?	Sand dunes	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	South Forks Ground Beetle	*Nebria darlingtoni*	G1	oak woodlands, South Fork American River	N/A	species occurs outside the LTBMU - Lake Tahoe watershed - reference link: http://www.dot.ca.gov/dist3/projects/shingle/pdfs/vol1/5-07-Biological-Resources.pdf

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Gold Rush Hanging Fly	*Orobittacus obscurus*	S1 (CA)	Western slopes of Sierra Nevada, forest to aok woodlands	N/A	species occurs outside the LTBMU - Lake Tahoe watershed - reference link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/invert/Insects_-_Misc/Orobittacus_obscurus.pdf
	An Aquatic Moth	*Petrophila confusalis*	S1 (NV)	unknown	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Alkaline Sandhill Skipper	*Polites sabuleti alkaliensis*	G5T3T4	alkaline lakes	N/A	species occurs outside the LTBMU - Lake Tahoe watershed - reference link: http://www.flmnh.ufl.edu/butterflies/research/allyn_pdfs/AME109small.pdf
	Carson Valley Sandhill Skipper	*Polites sabuleti genoa*	G5T3T4	Carson River Valley	N/A	species occurs outside the LTBMU - Lake Tahoe watershed - reference link: http://www.flmnh.ufl.edu/butterflies/research/allyn_pdfs/AME109small.pdf

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Insects	**Alkali Skipper**	*Pseudocopaeodes eunus*	G3	Riparian, Alkali flats in arid areas	N/A	species occurs outside the LTBMU - Lake Tahoe watershed - reference link: http://www.nearctica.com/butter/plate27/Peunus.htm
	Carson Wandering Skipper	*Pseudocopaeodes eunus obscurus*	G3G4T1 Federally Endangered	grassland	N/A	species occurs outside the LTBMU - Lake Tahoe watershed - also not on FWS list - reference link: http://xerces.org/wp-content/uploads/2008/09/pseudocopaeodes_eunus_obscurus.pdf
	Spiny Rhyacophilan Caddisfly	*Rhyacophila spinata*	G1G2	benthic, creeks, rivers	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Insects	**Nokomis Fritillary**	*Speyeria nokomis*	G3	wet places in arid areas	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Apache Fritillary	*Speyeria nokomis apacheana*	G3T2	unknown	N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Carson Valley Silverspot	*Speyeria nokomis carsonensis*	G3T1	Carson River Valley	N/A	species occurs outside the LTBMU - Lake Tahoe watershed - reference link: http://www.nature.org/wherewework/northamerica/states/nevada/science/art11296.html
	Western bumble bee	*Bombus occidentalis*	FSS	Varied	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE General Forest management – this species was added to the LTBMU FSS list as of June 30, 2013.
	An Endemic Ant	*Stenamma wheelerorum*	G1?	Conifer Forests	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Mammals	**Pallid Bat**	*Antrozous pallidus*	G5, SSC, S3 (CA) S3 (NV)	Graslands, deserts, woodlands, confir forests	N/A	species considered secure locally
	Sewellel	*Aplodontia rufa*	G5, S3 (CA) S1 (NV)	riparian, conifer forests	N/A	drop in lieu of specific subspecies: *Aplodontia rufa californica*

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Mammals	**Sierra Nevada Mountain Beaver (Mono Basin Mountain Beaver, Nevad Natural Heritage Program)**	*Aplodontia rufa californica*	G5T3T4, SSC NV State-Protected Species S2S3 (CA) S1 (NV)	riparian, conifer forests	Yes - DCs 50, 51, 53-55, 57, 61-63, 66 Strategies – Biological Resource Program Objectives 15-18, 20-22 S&Gs 39, 40, 42-46, 52-55, 63	SECURE Aquatic Ecosystem Management; General Management
	American Beaver	*Castor canadensis*	G5	riparian	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components
	Townsend's Big-eared Bat	*Corynorhinus townsendii*	G4, SSC S2S3 (CA) S2 (NV), FSS	cliffs, conifer forests, deserts, prairies, riparian, caves, mines, cave surrogates	Yes DC 65 Strategies – Biological Resource Program Objective 19 S&G 61	SECURE Cliffs, Caves, and Cave Surrogates Management

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Mammals	**Big Brown Bat**	*Eptesicus fuscus*	G5, S5 (CA) S4 (NV)	conifer forests, urban environments	N/A	Species considered secure
	Spotted Bat	*Euderma maculatum*	G4, SSC S2S3 (CA) , S2 (NV)	deserts, forests, prominnent rock features	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Northern Flying Squirrel	*Glaucomys sabrinus*	G5, S5 (CA) S3 (NV), MIS	snags, general forest	YES General Desired Conditions & Strategies – Biological Resource Program EIS Chapter 3.4.14	SECURE MIS
	Wolverine	*Gulo gulo*	G4, ST FP, S2 (CA) , SH (NV), FSS	alpine, conifer forests	Yes for subspecies only: General Desired Conditions & Strategies – Biological Resource Program	SECURE Potential for subspecies(*Gulo Gulo luteus*)) to occur in Plan area during the life of the Plan
	Silver-haired Bat	*Lasionycteris noctivagans*	G5, S3S4 (CA) S3 (NV)	general forest	N/A	Species considered secure

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Mammals	**Western Red Bat**	*Lasiurus blossevillii*	SSC S3? CA) S1 (NV)	riparian, general forest	N/A	Low probability to be found in the Plan area – not expected that management will affect species
	Hoary Bat	*Lasiurus cinereus*	G5	general forest	N/A	Species considered secure
	Sierra Nevada Snowshoe Hare	*Lepus americanus tahoensis*	G5T3T4 Q	general forest	N/A	SECURE General Forest Management - reference link: http://wildlife1.wildlifeinformation.org/S/0MLagomorph/Leporidae/lepus/Lepus_americanus.html
	American Marten	*Martes americana*	G5, S3S4 (CA) S2S3 (NV), FSS; MIS	snags, woody debris, general forest	Yes General Desired Conditions & Strategies – Biological Resource Program S&G 65, 66 EIS Ch 3.4.14	SECURE General Forest Management; MIS

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Mammals	**Fisher - West Coast Distinct Population Segment**	*Martes pennanti pop. 1*	G5T2T3 Q Candidate Species, SSC S2S3 (CA)	snags, woody debris, general forest, riparian	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	California myotis	*Myotis californicus*	G5, S5 (CA) S4 (NV)	cliffs, general forest, riparian,	N/A	Species considered secure
	Western Small-footed Myotis	*Myotis ciliolabrum*	G5, S2S3 (CA) S3 (NV)	cliffs, general forest, riparian, snags	Yes DC 65 Strategies – Biological Resource Program Objective 19 S&G 61	SECURE Cliffs, Caves, and Cave Surrogates Management
	Long-eared Myotis	*Myotis evotis*	G5, S4? (CA) S4 (NV)	cliffs, general forest, riparian,	N/A	Species considered secure
	Little Brown Myotis	*Myotis lucifugus*	S2S3 (CA) S3 (NV)	general forest, riparian, caves, buildings,	N/A	Species considered secure

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Fringed-tailed Myotis	*Myotis thysanodes*	G4G5, S4 (CA) S2 (NV), FSS	cliffs, general forest, riparian,	Yes DC 65 Strategies – Biological Resource Program Objective 19 S&G 61	SECURE Cliffs, Caves, and Cave Surrogates Management
	Long-legged Myotis	*Myotis volans*	G5	cliffs, caves, general forest,	N/A	Species considered secure
	Yuma Myotis	*Myotis yumanensis*	G5, S4 (CA)	cliffs, general forest, riparian,	N/A	Species considered secure
	Lodgepole Chipmunk	*Neotamias speciosus*	G4	cliffs, general forest, riparian,	N/A	Species considered secure
	American Pika	*Ochotona princeps*	G5, S3S4 (CA) S2 (NV)	alpine, rocky talus slopes	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Mule Deer	*Odocoileus hemionus*	G5, TRPA-SI	general forest	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Species considered secure – habitat management
	Western Pipistrelle	*Pipistrellus hesperus*	G5	rocky canyons, deserts	N/A	Species considered secure
	Preble's Shrew	*Sorex preblei*	G4, SNR (CA) S1S2 (NV)	riparian, desert, grasslands	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Trowbridge's Shrew	*Sorex trowbridgii*	G5, S4S5 (CA) S2 (NV)	general forest, riparian, woody debris	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE General Forest Management
	Brazilian Free-tailed Bat	*Tadarida brasiliensis*	G5	Uban environments, general forest, riparian,	N/A	Species considered secure
	American Black Bear	*Ursus americanus*	G5	general forest	N/A	Species considered secure

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Red Fox	*Vulpes vulpes*	G5, S1 (CA), S2 (NV)	general forest	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - considered extremely rare or extinct on LTBMU
	Sierra Nevada Red Fox	*Vulpes vulpes necator*	G5T3, ST S1 (CA), S3 (NV),	general forest	No	SECURE considered extremely rare or extinct on LTBMU – habitat management – this species was removed from the FSS list as of June 30, 2013 and is not considered in detail the Final EIS or the Biological Evaulation
Mollusks	**Tight Coin (snail)**	*Ammonitella yatesii*	G1	terrestrial	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	California Floater	*Anodonta californiensis*	G3Q	Shallow water, creeks, springs, brooks	N/A	species occurs outside the LTBMU - Lake Tahoe watershed - reference link: http://www.xerces.org/california-floater/

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Mollusks	**Pyramid Lake Pebblesnail**	*Fluminicola dalli*	G1	Pyramid Lake	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Virginia Mountains Pebblesnail	*Fluminicola virginius*	G1	Pyramid Lake	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Great Basin Rams-horn	*Helisoma newberryi newberryi*	G1Q / FSS	Freshwater	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Habitat management though not considered in detail since they will not be affected by LTBMU management or potential plan components - due to burrowing in soft mud species maybe invisible even when abundant
	Smooth Juga	*Juga interioris*	G1	Freshwater	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Oasis Juga	*Juga laurae*	G1	Freshwater	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Western Pearshell	*Margaritifera falcata*	G4G5 / SNR (CA / NV)	Rivers	N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Mollusks	**Sierra Sideband (snail)**	*Monadenia mormonum*	G2	terrestrial	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Button's Sierra Sideband (snail)	*Monadenia mormonum buttoni*	G2T1	terrestrial	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Fly Ranch Pyrg	*Pyrgulopsis bruesi*	G1	thermal spring in Northwestern NV	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Western Lahontan Pyrg	*Pyrgulopsis longiglans*	G2G3	Freshwater	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Wong's Springsnail	*Pyrgulopsis wongi*	G2	Freshwater	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Plants	**Mountain Bentgrass**	*Agrostis humilis*	G4, S1.3 (CA)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Jepson's Onion	*Allium jepsonii*	G1		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Plants	**Bristly-leaf Rockcress**	*Arabis rectissima var simulans*	G4G5T1Q, S1(NV), LSI,	General forest	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed
	Galena Creek Rockcress	*Arabis rigidissima var. dermota*	G3T2Q, S1.2 (CA) S2 (NV), FSS	Rocky habitat, general forest, aspen	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed
	Tiehm's Rockcress	*Arabis tiehmii*	G2 S1(NV), FSS	rocky habitats	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Suspected to occur within the Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Tulare Rockcress	*Boechera tularensis*	FSS	East facing subalpine rocky areas	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE General Species habitat management; this species was newly listed as FSS for the LTBMU as of June 30, 2013
	Nissenan Manzanita	*Arctostaphylos nisseniana*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Margaret's Rushy Milkvetch	*Astragalus convallarius var. margaretiae*	G5T2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Lemmon's Milkvetch	*Astragalus lemmonii*	G3?		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Lavin's Egg Milkvetch	*Astragalus oophorus var. lavinii*	G4T2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Lahontan Milkvetch	*Astragalus porrectus*	G3?		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Pulsifer's Milkvetch	*Astragalus pulsiferae*	G4, S2S3 (NV)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Plants	**Pulsifer's Milkvetch**	*Astragalus pulsiferae var. coronensis*	G4T3, S3.2 (CA), S1 (NV)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Pulsifer's Milkvetch	*Astragalus pulsiferae var. pulsiferae*	G4T2, S2.2 (CA), S1 (NV)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Tiehm's Milkvetch	*Astragalus tiehmii*	G3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Balsamroot	*Balsamorhiza macrolepis*	G3G4		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	California Balsamroot	*Balsamorhiza macrolepis var. macrolepis*	G3G4T2, S2.2 (CA)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	trianglelobe moonwort	*Botrychium ascendens*	G2G3, S1.3? (CA) S1 (NV), FSS	Meadow, shrublands, seeps, fens, streams	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Plants	**scalloped moonwort**	*Botrychium crenulatum*	G3, S2.2 (CA) S1? (NV), FSS	Seeps, streams, wet roadside ditches and drainage ways	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed
	narrowleaf grapefern	*Botrychium lineare*	G2?, S1.3(CA) , FSS		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	common moonwort	*Botrychium lunaria*	G5, S2 (CA), FSS	Meadows	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Suspected to occur within the Lake Tahoe watershed
	Mingan's Moonwort	*Botrychium minganense*	G4, FSS		Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Plants	**mountain moonwort**	*Botrychium montanum*	G3, S1.1 (CA), FSS		Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed
	Bolander's bruchia moss	*Bruchia bolanderi*	G3, S2.2(CA), FSS		Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed
	Pleasant Valley Mariposa Lily	*Calochortus clavatus var. avius*	G4T3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Stebbin's Morning-glory	*Calystegia stebbinsii*	G1, FE		N/A	species occurs outside the LTBMU - Lake Tahoe watershed - also not on FWS list for LTBMU
	Pine Creek Evening-primrose	*Camissonia boothii ssp. Alyssoides*	G5T4		N/A	Species considered secure

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Nevada Evening-primrose	*Camissonia nevadensis*	G3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	claspbract sedge	*Carex amplectens*	G2? CBR		N/A	Not recognized as a separate species at this time.
	Mud Sedge	*Carex limosa*	G5, S2.2 (CA)	Fens, meadows	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed, semi common within the LTBMU
	Sheldon's Sedge	*Carex sheldonii*	G4, S2.2 (CA)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Valley Sedge	*Carex vallicola*	G5, S2.3 (CA)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Pine Hill Ceanothus	*Ceanothus roderickii*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Alpine Pincushion	*Chaenactis douglassi var. alpina*	G5T5		N/A	SECURE Known to occur within the Lake Tahoe watershed, but does not currently have a rare rank, will monitor
	Red Hills Soaproot	*Chlorogalum grandiflorum*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Oval-leaf Viburnum	*Ciburnum ellipticum*	G5		N/A	Species considered secure
	Two-lobed Clarkia	*Clarkia biloba ssp. barndegeeae*	G4G5T2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Alpine Springbeauty	*Claytonia megarhiza*	G4G5, S2.3 (ca)	Rocky habitats	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed
	Great Basin Springbeauty	*Claytonia umbellata*	G5?		N/A	Species considered secure
	Hispid Bird's-beak	*Cordylanthus mollis ssp. Hispidus*	G2T2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Subalpine Cryptantha	*Cryptantha crymophila*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Alkali False Whitlow-grass	*Cusickiella douglasii*	G4G5		N/A	Species considered secure
	Bodie Hills Cusickiella	*Cusickiella quadricostata*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Fungi	**branched collybia**	*Dendrocollybia racemosa*	G2G3, FSS	General Forest - older	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Historical record - known to occur within the Lake Tahoe watershed
Plants Plants Plants Plants	**Doublet**	*Dimeresia howellii*	G4?		N/A	Species considered secure
	Dwaft Downingia	*Downingia pusilla*	G3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Plants Plants Plants	**Lake Tahoe Draba**	*Draba asterophora var. asterophora*	G4T2, S1.2(CA), FSS	Rocky habitats – tallus, scree	Yes DC 64 Strategies – Biological Resource Program Objective 23	SECURE Known to occur within the Lake Tahoe watershed
	Cup Lake Draba	*Draba asterophora var. macrocarpa*	G4T1, S1.1(CA), FSS	Rocky habitats – tallus, scree	Yes General Desired Conditions & Strategies – Biological Resource Program Objective 23	SECURE Known to occur within the Lake Tahoe watershed
	Carson Range Draba	*Draba stenoloba var. ramosa*	G5T2T3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Mineral King draba	*Draba cruciata*	FSS	Subalpine gravelly or rocky slopes	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE General Species habitat management; this species was newly listed as FSS for the LTBMU as of June 30, 2013

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Yuba Pass willowherb	*Epilobium howellii*	G2, S2.3 (CA), FSS	Meadow edges, seeps, streams	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed
	Oregon Willowherb	*Epilobium oreganum*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Marsh willowherb	*Epilobium palustre*	G5, S1.3 (CA)	Fens, Meadow, seeps	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Historic - Known to occur within the Lake Tahoe watershed
	Nevada Fleabane	*Erigeron eatonii var. nevadincola*	G5T4, S2.3(CA)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Starved Daisy	*Erigeron miser*	G2, S2.3 (CA), FSS	Rocky habitats - cliffs	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Suspected to occur within the Lake Tahoe watershed
	Crosby's Buckwheat	*Eriogonum crosbyae*	G3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Lemmon's Buckwheat	*Eriogonum lemmonii*	G3?		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Steamboat Buckwheat	*Eriogonum ovalifolium var. williamsiae*	G5T1 Federally Endangered		N/A	species occurs outside the LTBMU - Lake Tahoe watershed - also not on FWS list for LTBMU
	Prostrate Buckwheat	*Eriogonum prociduum*	G3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Altered Andesite Buckwheat	*Eriogonum robustum*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Donner Pass Wild Buckwheat	*Eriogonum umbellatum var. torreyanum*	G5T2, FSS	Ridge tops, steep slopes, dry	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Suspected to occur within the Lake Tahoe watershed
	Goldencarper buckwheat	*Erigonum luteolum var. saltuarium*	FSS	Sandy granitic flats and slopes	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE General Species habitat management; this species was newly listed as FSS for the LTBMU as of June 30, 2013
	Pine Hill Flannelbush	*Fremontodendron decumbens*	G1		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Butte County Fritillary	*Fritillaria eastwoodiae*	G3Q		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	El Dorado Bedstraw	*Galium californicum ssp. Sierrae*	G5T1		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Nevada Greasebush	*Glossopetalon spinescens var. aridum*	G5T5?		N/A	Species considered secure

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	American mannagrass	*Glyceria grandis*	G5, S1.3 (CA)	Fen, meadow, seep, marsh, swamp	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Suspected to occur within the Lake Tahoe watershed
	Boggs Lake Hedge-hyssop	*Gratiola heterosepala*	G3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Cusick's Stickseed	*Hackelia cusickii*	G5		N/A	Species considered secure
	Blandow's helodium moss	*Helodium blandowii*	G5, S1.3 (CA), FSS	Meadows eep, fens	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed
	Parry's Horkelia	*Horkelia parryi*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	shortleaf alpinegold	*Hulsea brevifolia*	G3, S3.2(CA), FSS		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Sierra Valley Ivesia	*Ivesia aperta var. aperta*	G2T2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Pine Nut Ivesia	*Ivesia pityocharis*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Grimy Ivesia	*Ivesia rhypara var. rhypara*	G2T1		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Plumas Ivesia	*Ivesia sericoleuca*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Webber Ivesia	*Ivesia webberi*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Red Bluff Rush	*Juncus leiospermus*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Ahart Rush	*Juncus leiospermus var. ahartii*	G2T1, S1.2 (CA)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Red Bluff Rush	*Juncus leiospermus var. leiospermus*	G2T2, S2.2 (CA)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Legenere	*Legenere limosa*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Kellogg's lewisia	*Lewisia kelloggii ssp. hutchisonii*	G4T2T3, S2S3.3 (CA), FSS	Flat open forest	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Suspected to occur within the Lake Tahoe watershed
	Kellogg's lewisia	*Lewisia kelloggii ssp. kelloggii*	G4T4?, FSS	Flat open forest	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Suspected to occur within the Lake Tahoe watershed
	Long-petaled Lewisia	*Lewisia longipetala*	G2, S2.2 (CA), FSS	Rocky habitats – granitic slabs	Yes – DC 64 Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Saw-toothed Lewisia	*Lewisia serrata*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Sage-like Loeflingia	*Loeflingia squarrosa ssp. artemisiarum*	G5T2T3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Packard's Desert-parsley	*Lomatium packardiae*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Raven's Lomatium	*Lomatium ravenii*	G4		N/A	Species considered secure
	Rose-flower Desert-parsley	*Lomatium roseanum*	G2G3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Mount Rose Lupine	*Lupinus caudatus ssp. Montigenus*	G5T4		N/A	Species considered secure
	Jaw-leaf Lupine	*Lupinus malacophyllus*	G3?		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Meesia Moss	*Meesia longiseta*	G4?, LSI	Stream banks, fens, meadows	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Suspected to occur within the Lake Tahoe watershed, not yet known from FS land in CA but included as LTBMU special interest to confirm presence in CA prior to listing as R5 sensitive
	Three-ranked Hump Moss	*Meesia triquetra*	G5, S3S4.2 (CA), FSS	Fens, wetland sites	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed, common in the LTB but is still a R5 sensitive
	Broad-nerved Hump Moss	*Meesia uliginosa*	G4, S2.2 (CA), FSS	fens	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed
		Mielichhoferia mielichhoferiana var. elongata	G4?T4?, S2.2 (CA)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Mount Rose Monkeyflower	*Mimulus angustifolius*	G1?Q, S1 (NV)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Effleaf Monkeyflower	*Mimulus ovatus*	G1G2Q		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Myurella Moss	*Myurella julacea*	G5, S1.3 (CA), LSI		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Pincushion Navarretia	*Navarretia myersii ssp. Myersii*	G1T1		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Northern Adder's-tongue	*Ophioglossum pusillum*	G5		N/A	Species considered secure
	Sand Cholla	*Opuntia pulchella*	G4		N/A	Species considered secure
	Orthotrichum moss	*Orthotrichum praemorsum*	G2, LSI	Rocky habitat	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Shevock's bristle moss	*Orthotrichum shevockii*	G1, S1.3 (CA), LSI	rocky habitats – rock outcrops	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed
	Spjut's bristle moss	*Orthotrichum spjutii*	G1, S1.3 (CA), LSI	rocky habitats – volcanic rock walls	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Suspected to occur within the Lake Tahoe watershed
	Nevada Oryctes	*Oryctes nevadensis*	G2G3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Plants	**Layne's Butterweed**	*Packera layneae*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Lichens	**Veined water lichen**	*Peltigera hydrothyria*	G3G5, FSS	Streams	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed
Plants	**Wassuk Beardtongue**	*Penstemon rubicundus*	G2G3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Susanville Beardtongue	*Penstemon sudans*	G2G3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Playa Phacelia	*Phacelia inundata*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Stebbins Phacelia	*Phacelia stebbinsii*	G3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Washoe Pine	*Pinus washoensis*	G3Q		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Clustered Popcorn-flower	*Plagiobothrys glomeratus*	G2G3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Plants	**Tundra Pohlia Moss**	*Pohlia tundrae*	G2G3, S2.3 (CA), LSI	Rocky habitats – alpine boulder and rock fields	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed, not sure if populations occur on LTBMU land
	Nuttall's Pondweed	*Potamogeton epihydrus ssp. Nuttallii*	G2G3, S2.3 (CA)	Marshes, swamps	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed, not sure if populations occur on LTBMU land
	Slender Pondweed	*Potamogeton filiformis*	G5, S1S2 (CA)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Flatleaf Pondweed	*Potamogeton robbinsii*	G5, S2.3 (CA)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Hartweg's Golden Sunburst	*Pseudobahia bahifolia*	G2, FE		N/A	species occurs outside the LTBMU - Lake Tahoe watershed - also not on FWS list for LTBMU

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
Plants	**Alder-leaved Buckthorn**	*Rhamnus alnifolia*	G5, S2.2 (CA)	Wet meadow, lodgepole forest	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed, not sure if populations occur on LTBMU land
	Tahoe Yellowcress	*Rorippa subumbellata*	G1 Candidate Species, SE, S1.1(CA), S1S2 (NV), FSS, TRPA-SI	sandy, shoreline habitats	Yes DCs 77 Strategies – Biological Resource Program S&Gs 89, 92	NOT SECURE Endemic to the Lake Tahoe watershed
	Sanford's Arrowhead	*Sagittaria sanfordii*	G3		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Water Bulrush	*Schoenoplectus subterminalis*	G4G5, S2.3 (CA)	Lakes, ponds, marshes	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed, not sure if populations occur on LTBMU land

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Hooded Skullcap	*Scutellaria galericulata*	G5, S2.3 (CA)	Meadows, seeps	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Known to occur within the Lake Tahoe watershed
	Sweet Marsh Ragwort	*Senecio hydrophiloides*	G4G5, S2.3 (CA)	Mesic habitats	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Suspected to occur within the Lake Tahoe watershed
	Naked Catchfly	*Silene nuda ssp.nuda*	G4G5T1 T2Q, SNR (CA), S1S2 (NV)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Monroe's Desert Mallow	*Sphaeralcea monroana*	G4, S1.2 (CA)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Peat Moss	*Sphagnum* sppecies	Genus as habitat indicator	fens	Yes General Desired Conditions & Strategies – Biological Resource Program	SECURE Genera is indicative of unique wetland habitats in Sierra Nevada
	Masonic Mountain Jewelflower	*Streptanthus oliganthus*	G3, S2.2(CA), S2 (NV)		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Beatley's Clover	*Trifolium andersonii ssp. Beatleyae*	G4T4		N/A	Species considered secure
	Lemmon's Clover	*Trifolium lemmonii*	G4?		N/A	Species considered secure
	Whitebark Pine	*Pinus albicaulis*	Federal Candidate, FSS	Subalpine and timberline on rocky soils	YES DCs 78-80 Strategies – Biological Resource Program S&G 89	NOT SECURE Species specific management ; this species was listed as FSS for the LTBMU in June 30, 2013

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	El Dorado Mule's-ears	*Wyethia reticulata*	G2		N/A	species occurs outside the LTBMU - Lake Tahoe watershed
Reptiles Reptiles	**Pacific Pond Turtle**	*Actinemys marmorata*	G3G4, S3(CA) S3 (NV)	ponds	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Northern Pacific Pond Turtle	*Actinemys marmorata marmorata*	G3G4T3Q, SSC S3(CA), S3 (NV)	ponds	N/A	species occurs outside the LTBMU - Lake Tahoe watershed
	Rubber Boa	*Charina bottae*	G5, S4 (CA) S3S4 (NV)	riparian, general forest	N/A	local population considered secure
	Northern Alligator Lizard	*Elgaria coerulea*	G5, S5 (CA) S2S3 (NV)	riparian, general forest	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to population considered secure in CA and not occurring on the NV side of the LTBMU

Group	Species Name		Status	Habitat	Consider species in LRMP and or in EIS – How is species addressed	Comments / Rationale – Secure / Not Secure (as it relates to viability chart – Figure E1).
	Sierra Alligator Lizard	*Elgaria coerulea palmeri*	G5T4, S2S3 (NV)	riparian, general forest	N/A	not considered in detail since they will not be affected by LTBMU management or potential plan components - due to population considered secure in CA and not occurring on the NV side of the LTBMU

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